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The Extended Malaria Control Program
Policy on DDT for Mosquito Control

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Public Health Reports

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OVER THE HORIZON IN PUBLIC HEALTH[1]

By THOMAS PARRAN, M. D., *Surgeon General, United States Public Health Service*

Today we have seen a splendid institution, well-equipped and fully staffed, dedicated to the health of American workers—an institution created and supported by the workers themselves through their union. If this meeting has no other significance, that in itself would be a milestone in the coming of age of labor and of public health.

But the Health Institute of the United Automobile Workers, CIO, is far more significant. It represents a broadening concept of organized labor in this country which parallels the broadening concept of public health. Organized labor has striven for the right of the workers to bargain collectively with their employers for better wages, for better working conditions, and job security. These cardinal principles of organized labor may be compared with the traditional functions of public health, that is, the provision of a sanitary environment and the suppression of epidemics. In attaining their several traditional goals, organized labor, no less than public health, has contributed immeasurably to the national welfare. The labor movement has resulted in shorter hours of work, better wages and working conditions, better food and housing for workers' families. Thus, it has been a powerful factor in raising levels of national health. We cannot raise healthy children if there is not enough money to buy nourishing food or to provide decent homes.

On the horizon of social progress now we see the expanding field of public health and labor's participation in our national life. In recent years, organized labor has learned that higher wages cannot purchase the many community, State, and national services which all of us need to live healthy, productive lives. The unions are taking an increasingly active part in supporting health and social welfare services throughout the Nation; they are becoming more aware of what is needed to insure to every individual equal opportunities for health. At the same time, the public health professions, in their close contacts with the human crises of birth, pain, and death, have broadened and

[1] Address at dedication of Health Institute, United Automobile Workers, CIO, at Detroit, Mich., Jan. 19, 1945.

sharpened their knowledge of what is needed to relieve suffering, prevent death, and raise the health level of all our people.

Labor already has recognized its stake in a national medical care program. It is not, perhaps, as fully aware of its share in the broader plan to insure maximum health services to all the people. To realize this plan, a number of objectives must be reached. In addition to medical care, we must also provide in every community enough hospitals, diagnostic clinics, and health centers, all giving a high quality of service. In particular, we must increase the amount and scope of public health services to prevent disease. We must train doctors, dentists, nurses, laboratory technicians, and other health workers in sufficient numbers to do the job. We must support more scientific research in the health and medical fields so that we may continually add new knowledge for the promotion of health and for the prevention and cure of disease. We must make sure that every family in the country has decent housing with safe water and adequate sanitary facilities.

So vast are our national health needs that no one group can meet them. It will take the best thought in the nation; the combined effort of all citizens involving the complete cooperation of all groups. I do not believe that we shall achieve an effective national health service without difficulty, without delay, or with complete harmony. But I believe it can be done. This is the challenge before every American today.

It is obvious that the financing of medical care of the individual, as a part of the program for total health care, should include some arrangement for prepayment. The occurrence of disease is sporadic. The heavy cost of catastrophic disease falls unpredictably and unevenly upon the population. For the individual family, I believe that these risks should be met on a national basis, either through insurance, or through public taxes, or, preferably through a combination of both. Social insurance thus can contribute to the advancement of national health by spreading the cost of illness and by providing the wage earner compensation in lieu of wages when he is ill and unable to earn.

Social insurance in itself, however, no matter how inclusive, does not constitute a total health program, but is part of it and contributory to it. In the same way, better nutrition on a national basis is in the interest of national health. Slum clearance and the provision of decent, sanitary housing also is an important task for the nation, but this, too, is only one sector of a total health program. Finally, a high level of employment is necessary if we are to have a healthy nation.

We in this country want nothing less than an equal health opportunity for every citizen. Medical science today is extraordinarily

complex. The practice of medicine requires a battery of equipment and skills unknown at the turn of the century. The laboratories, the X-ray machines, and the corps of consultant specialists assembled in your Health Institute represent the costly and complex methods of modern diagnosis. It is apparent that the provision of adequate health care for the people of this country involves a great deal more than simply paying the doctor's fees, basic as this is.

These general principles are accepted by organized labor, by many professional men and women, and by many other groups. I do not believe that anyone can, at the moment, outline all the specific ways in which health insurance funds and tax funds would be spent for medical care. Despite the unifying influences of our industrial civilization, the 48 States of this country vary greatly in their problems, needs, resources, and points of view.

If tomorrow—or even V-E Day plus 1—the machinery were put into operation to pay for medical care, the nation's supply of physicians, nurses, equipment, and hospital beds could not fully meet the demand. This is also true State by State and within States. Many communities do not have enough medical manpower and facilities to meet current demands; they have never had enough. Some 15,000,000 people in rural communities are entirely without physicians and hospitals. There are some 1,200 counties without basic public health services, and many of the remaining 1,800 are served by wartime staffs of health workers.

It is urgent that, throughout the country, State by State, we put ourselves in a position to render the highest quality of health care which the people so earnestly desire. Indeed, if we have the vision to attain that goal, we must plan now to move forward on all health fronts and at the same time.

We should not—indeed, we dare not—wait for the functioning of a health-insurance plan before starting the construction of hospitals and health centers, the training of health and medical personnel, and the expansion of existing health services. All of the measures for the prevention and cure of disease should fit together as a unit program. Central to the success of such a program are adequate facilities and health manpower.

Studies made by the Public Health Service, in cooperation with the American Hospital Association and other interested agencies, show that in the first 10 years after the war there should be constructed in the United States 166,000 beds in general hospitals, 196,000 beds for mental hospitals, and 60,000 beds for tuberculosis institutions. The construction of small, well-equipped hospitals and health centers to serve rural communities is a particularly urgent need.

These estimates merely indicate the over-all national need. They take into account the new hospitals which must be built in areas

having none or not enough; they include the replacement of obsolete institutions with modern buildings, as well as the expansion of well-equipped existing hospitals which are not now large enough.

A plan of hospital construction should fit together all the hospitals of a community or a State into one over-all plan, functioning for the sole purpose of rendering the highest type of complete service to all the people of the area.

In isolated areas it is not practical to operate elaborate institutions, equipped to render all of the complex medical services; but with modern transportation it would be possible when necessary to send patients from the rural hospitals swiftly and safely to a city where larger district hospitals, fully equipped to render all kinds of service, would be available.

The heart of any organism pumps new blood to every part. So the base hospital would circulate new medical knowledge and skills to every institution it serves. There would be concentrated medical and nursing schools, specialists in all the branches of medicine, and research projects designed to find new and better methods of diagnosis and treatment.

The ideal would be to permit a free interchange of patients and of physicians and other personnel among these hospitals, all working together in a coordinated system.

A hospital, however, is not just a fine building; it is the scene of intense human activity. It exists only in the services rendered by men and women trained to meet the most bitter crises of human experience, and dedicated to service. To make our hospitals of the future dynamic institutions, we must have more physicians, nurses, and other personnel than we have ever had before. They must be trained, and they must be given the opportunity continually to grow in the wisdom of their professions.

Closely related to the staffing of hospitals and health services is the distribution of medical personnel throughout the country. Even before the war, physicians were not equitably distributed. There was a doctor for every 750 people in our large cities; but down in the mountain counties of Kentucky the ratio was 1 to 3,000. During the war, the situation has grown worse. By the end of 1943, almost one-third of all counties in the United States had more than 3,000 persons per physician.

Nation-wide provision of hospitals in itself would be a stimulus to more adequate distribution of personnel. With the hospital and placement plan, there should be integrated an expanded program of professional education. The peacetime army of health workers which we shall need to operate a national health program will offer countless opportunities for service men and women returning to civilian life. Moreover, hospital construction will create jobs.

Equipment must be manufactured, installed, and serviced, again creating jobs.

Better preventive health services more widely spread are an integral part of any plan for national health. Public health nursing, clinics for expectant mothers and for infants, diagnosis and treatment for venereal disease patients are already accepted functions of community health departments. In many communities, these services are not yet available or they are being provided on a wartime basis of reduced manpower and reduced efficiency.

They should be made fully available throughout the country. In addition, personal services to the individual family should be increased and should include bedside nursing, particularly in rural areas, dental clinics for children, nutrition services, and mental hygiene programs. The Army, the Navy, the Public Health Service, and the War Shipping Administration are using modern psychiatry to cope with the emotional shocks of war among our soldiers, sailors, and merchant seamen. The National Maritime Union, CIO, is actively supporting the mental hygiene program for merchant seamen. These men are learning the importance of mental health and, through psychiatric services, are finding ways to achieve it. Surely the benefits of modern psychiatry should be made available to these men after the war as well as to the great group of workers and their families. The Health Institute is to be commended for its progressive action in providing psychiatric service to its members.

Few cities have tackled their tuberculosis program as capably as has Detroit. The excellent services provided in this city should be paralleled throughout the country. Last summer, the Congress authorized an annual appropriation of funds to the Public Health Service to operate a Nation-wide tuberculosis control program. Most of the money will be expended in grants to State health departments. This is a good beginning. If the State and local health departments take full advantage of the Federal aid offered to them, and if they use fully the community resources already in existence, tuberculosis will no longer be the first killer of men and women in their prime, and the first homebreaker among diseases.

Obviously, industrial hygiene is a first concern of public health as it is with labor and management. The improvement of working conditions and health conservation among industrial workers are responsibilities of this 3-way partnership. Ten years ago, only 5 States provided tax-supported industrial hygiene services. Today, that number has increased nearly 8 times, and we now have 38 State industrial hygiene services. Nearly all of them are in health departments where their special facilities can be integrated with the many other services I have just described. The progress of the past 10 years is commendable, but much remains to be done. Every State

should provide this service; and within States, each major industrial area should have a regional industrial hygiene unit such as the local units now operating in Detroit, Los Angeles, St. Louis, and Baltimore.

It is almost certain that further expansion of industrial health services will not be brought about unless organized labor realizes their full value and gives them wholehearted support. Even among the 38 States where an industrial hygiene program is in operation, the services are not fully developed. At present, industrial hygiene programs are operated, for the most part, on Federal funds and with inadequate staffs. Many States have not fully realized their industrial hygiene obligation. Here again, the support of labor is necessary. Programs should be developed that will provide personnel in sufficient numbers to insure a healthful work environment and to apply all the knowledge that is available. The mutual advantages to labor and management of industrial health service are more widely understood by both groups than at any time in the past. In the future, labor and management, working together, should make sure that these benefits are provided for all workers.

Your Health Institute is the automobile workers' recognition that their well-being is dependent upon a unified community health program. The Institute has won its place as a community agency, and is making a real contribution to community health. Because of its diagnostic service and health education program, patients seek and obtain medical care more promptly and more frequently than they would in the ordinary course of events. There is an opportunity for extending these services to the members of other unions. Another way in which the scope of the Institute's usefulness might be expanded is the promotion of routine health examinations for nonindustrial illness.

In no other field has publicly supported research produced more fruitful results than in industrial hygiene. Scientific research in industrial problems was started on a small scale by the Public Health Service during the last war. Despite the limited amount of money expended since then, the outbreak of this war found industrial hygiene knowledge far in advance of its application. The hazards of many basic industries had been explored and defined; methods for their elimination had been devised. The causes and cure of many occupational diseases had been discovered. That is why the dangers of a new explosive, Petn, developed for World War II, could be detected and preventive controls built into the plants before Petn went into mass production; before a single worker could be exposed through ignorance of its potential hazards. This is only one example of hundreds of war-connected investigations made by the Public Health Service since 1941.

Medical research has been augmented during the war by Federal

support of public and private institutions through the Office of Scientific Research and Development. Future progress in national health depends heavily upon the discovery of better methods to prevent and cure diseases which cannot now be controlled because we lack the fundamental knowledge. Among these are cancer, heart disease, and arthritis. A way to prevent or cure dental decay would save the people of this country millions of dollars every year in the costs of dental care. A preventive for the common cold would save industrial workers more than 30,000,000 days of pay now lost every year because of colds alone. Increased governmental funds for research should be available through grants-in-aid to scientific institutions, as a part of the national health program.

Finally, we should make our homes and communities everywhere safe and healthful places in which to live. Over 10,000 communities need to improve their public water supplies and sewerage systems; 5,000,000 rural families need better sanitary facilities.

Let me review briefly the steps which should be taken toward a comprehensive national health program, under Federal leadership:

(1) We should find the means to finance the costs of medical care for every individual, through tax-supported programs, health insurance, or a combination of both.

(2) Tax funds should be made available through grants-in-aid to the States for the construction of hospitals and health centers.

(3) To insure adequate numbers of health and medical personnel, tax funds should be made available for the expansion of professional education.

(4) We should provide for the application of all the knowledge we have to prevent disease, through full-time public health departments in every part of the country and the addition of such services as industrial hygiene, public health nursing, children's dentistry, mental hygiene, and nutrition.

(5) The Nation should continue to support and encourage both public and private research in the medical sciences through grants-in-aid to qualified institutions.

(6) We should meet the present deficiencies in the Nation's sanitary facilities through the construction of public water supplies, sewerage systems, and the like.

We cannot attain these goals by talking about them. We must plan and if necessary fight for them. Planning for each objective must parallel planning for the others. Any national health plan in a democracy must consider all needs, draw upon all resources, weigh limitations, accept risks. The vast accomplishments of this Nation in war have taught us that we possess the physical resources, the brains, and the manpower, to attain the purposes of peace. They can be attained

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through the democratic process, as we have attained every forward step in social welfare through the years of our existence as a Nation.

Already many States—including Michigan—are surveying the health needs and planning for interdependent systems of professional education, hospitals, medical care, and public health service. These States have taken the initiative, but they look to the Federal Government for financial and technical aid. Cooperation between the Federal Government and the States in the health field, and between the government and the Nation's nursing schools, has already proved an effective means of meeting emergency needs. The same methods can be expected to prove equally effective in meeting the continuing needs of national health.

The workers of the Nation have the largest stake in a national health program. They should have a large share of the responsibility for bringing such a program into being.

Progress in public health needs the active support of labor in the local communities, the States, and in the Nation. Human needs are realities, not estimates, to the unions. I am confident that the United Automobile Workers, and other labor organizations, will add the strength of their leadership to the attainment of our mutual goal—health for the American people.

THE EXTENDED MALARIA CONTROL PROGRAM[1]

By L. L. Williams, Jr., *Medical Director, United States Public Health Service*

Military demobilization will introduce a large number of malaria carriers into the civil population. Some of the new strains will be more virulent than those we now have and will present a more difficult therapeutic problem. The greater relapse rate of Mediterranean and South Pacific strains will make these soldiers more dangerous carriers, as they will be more frequently infectious to the mosquito. This does not pose any new problem; it merely accentuates the existing civilian problem. Solution of the one is the solution of the other.

When this problem of new carriers was first broached to me, I outlined the plan upon which the United States Public Health Service, through its Office of Malaria Control in War Areas, is now working. It is based on the premise that, having never restricted civilian carriers, it is neither humanitarian nor possible to restrict the movements of restless military carriers, and that, therefore, we must concentrate our efforts against the vector mosquito. To this end I advocated removal of the hazard of malaria transmission in all endemic foci,

[1] From the Tropical Disease Section, States Relations Division, Bureau of State Services. Read before the meeting of State and Territorial Health Officers, New York City, Nov. 5, 1944.

preparation of mobile control units to take care of possible explosive outbreaks, and prevention of the creation of new breeding areas of *Anopheles quadrimaculatus*.

CARRIERS

The most dangerous carrier is the one suffering a clinical relapse; next, one with a parasitaemic relapse. Starting with any given number of clinical cases there is a steady reduction of continuing infections following each relapse. In the military, each known case will be well treated, usually hospitalized, and consequent demobilization so slowed as to afford an observation time covering the period of greatest relapse. These relapses will be retreated and demobilization again delayed. As a result, comparatively few carriers destined to frequent relapse will originate from the group of known infections. It is possible that troops long under suppressive treatment, if rapidly demobilized, may become the largest source of carriers. Our forces have been recruited from every town and hamlet and it is reasonable to suppose that they will return to every part of the United States and carry some malarial infection.

We have often experienced a sudden increase in the number of malaria carriers. Each 7-year upswing of the malaria cycle has trebled or quadrupled the number of infections. Prior to the war it was apparent from the summer travel of residents of the South that malaria carriers annually visited practically all places, including those no longer in the endemic malaria section. In the 15 years just passed, outside the endemic area, they were responsible for not over half a dozen malaria epidemics. In each instance the outbreaks (usually small) were localized in areas adjacent to a new water impoundment, to an enlargement of an existing impoundment, or to the re-creation of an old one—breeding places which had produced a sudden and material rise in the density of the mosquito vector.

The Camden, N. J., outbreak accompanied the high density of *A. quadrimaculatus* following the plugging of an old drainage way; at Aurora, Ohio, malaria came with the serial damming of a small creek for beatification purposes in a new residential subdivision. Paw Paw, Mich., had a little epidemic after increasing the size of its water reservoir. Believing that agricultural drainage and discontinuance of innumerable small mill dams had played a significant part in the elimination of malaria from the North, I predicted, some years ago, that reimpoundments could bring malaria back to any place in the eastern half of the country. A few years ago the upper Mississippi was so impounded for navigation and a number of drainage districts flooded. Around the impoundments a zone of malaria appeared, extending in a narrow strip through five States into Minnesota.

The South has had similar occurrences. The coastal Camden

County, N. C., outbreak followed a notable mosquito increase when a gale obstructed the local streams; at Bluefield, Va., an epidemic was caused by creation of a railroad auxiliary water supply; and another, in coastal South Carolina, by a large hydroelectric impoundment.

During this period, the principal sources of carriers were the endemic foci of the South. It is noteworthy that outside of these foci the carrier was dangerous only where the mosquito density had risen. This focuses attention sharply on the mosquito and it should be kept there.

ENDEMIC FOCI

Malaria in the North disappeared because of the short transmission season, the elimination of anopheline breeding areas through agricultural drainage, and the improving economic status which provided sturdier and well-screened homes. It has nearly disappeared from the Pacific slope, partly by the operation of similar factors and partly through the efficient works of large mosquito-control districts. The principal endemic area now lies south of Washington and St. Louis and east of San Antonio. Here, malaria left the large cities, quite fortuitously, through municipal drainage and pollution. Purposeful malaria control, stimulated by the United States Public Health Service and directed by State and city health departments, removed it from the residential suburbs, towns, and larger villages. It was further pushed back by the thousands of miles of drainage ditches dug by the relief workers during the depression. Since the start of the present war our malarious area has been again reduced by the extensive mosquito-control works of the military forces on large, and often rural, reservations and of Malaria Control in War Areas, in adjacent areas, and near war industries. The recent thick-film survey by Malaria Control in War Areas indicated that the present infection rate is only a fraction of the nearly 6 percent found 10 years ago, probably not more than 0.5 percent with highest local rates of 10 percent.

Since the cyclic rise of 1934 rates have fallen so low that there has been no measurable peak. This is the strategic time to bring the disease under complete control.

The residuum of infection is clumped in apparently permanent foci in certain rural areas of southern valleys, coastal plains, and piedmont sections. It remains alive in these foci, because of the easy accessibility of humans, poorly housed, living near extensive breeding places of *A. quadrimaculatus*. The foci may be large during seasons of great biological activity, quite shrunken in intervening periods of seeming quiescence, yet never inactive.

Each focus can be found by locating the most easily discoverable

infections and including adjacent areas where history reveals that malaria transmission occurred within recent years. It is apparent that reducing the transmissibility of malaria in these permanent foci would eliminate them as reservoirs of malaria.

MALARIA CONTROL IN ENDEMIC FOCI

When each endemic focus is defined a complete entomological survey should be made. Every breeding place should be accurately located and its relative importance established. All prolific *A. quadrimaculatus* breeding places should be drained if possible. In the rest of them anopheline production should be controlled by larvicides for a period long enough to allow all local infections to die out. During such a program it may be expected that much of the temporary work will be made permanent through local expenditures, for that has been the history of Malaria Control in War Areas where nearly two and a quarter million dollars per annum have been so contributed and spent. At the same time, householders must be stimulated to screen and mosquitoproof their homes, for the eventual rise in mosquito density, when larviciding ceases, must be balanced by lessened accessibility of man to the anophelines.

There is another method which should be tried, internal house spraying with a long-lasting insecticide, DDT. If this method were practiced in every home it would result in the death of those mosquitoes which had secured a human blood meal and in this way would prevent the development of the disease in mosquitoes. Experience has shown that internal house spraying is followed by a relative freedom from the irritation of most of the household insects. The human reaction is so favorable that it indicates the possibility that a large-scale demonstration might cause almost all householders to adopt the practice as a habit of life. Such a change in the habit of life in the South, if practiced by all of the poeple who live in unscreened homes, could of itself effectively control malaria.

I know of no instance, however, where a whole people has deliberately changed a habit of life by individually adopting a new habit for the purpose of controlling a disease. Pending the wholesale adoption of internal house spraying, we cannot abandon proved methods of malaria control. The primary attack must still be to reduce the hazard of malaria transmission by reducing the density of the malaria vector.

MALARIA CONTROL BY MOBILE UNITS

To handle explosive outbreaks Malaria Control in War Areas has already organized several mobile units which can be dispatched to the affected areas. The unit comprises an entomologist, or an engineer,

larviciding crew, and truck. The truck is equipped with larvicides, insecticides, and apparatus for their distribution. Production of anophelines will be reduced by larviciding prolific breeding areas. Adult mosquitoes will be destroyed in their roosting places by insecticides.

NEW BREEDING PLACES

These activities must be accompanied by a program designed to prevent the creation of new anopheline breeding places. This can be done only by preventing the accidental creation of breeding areas and by requiring anopheline control on impoundments, purposefully established. Power and flood control impoundments are increasing in number, and mosquito control is not practiced on all. This danger can be eliminated only by the passage of regulatory laws, where they are absent, and by their rigid enforcement everywhere.

Unintentional impoundments will be prevented only through changing some other of our very bad habits. Uncontrolled deforestation of watersheds and indiscriminate lumbering of swamps, accompanied by intensive farming, are followed by a predictable series of events. Deforestation and intensive farming permit a too rapid run-off of rain water. The consequent soil erosion and lowering of the water table causes stream silting and trickling dry-season flow, with consequent pooling. These unintentional impoundments provide excellent breeding places for the Southeast malaria vector and are changing harmless brooks, ditches, creeks, and even rivers into dangerous malaria hazards. Swamp lumbering lets the sunlight onto acid water, again producing ideal breeding places for our principal malaria vector. The malaria control program of the future should be more and more integrated with the conservation, agriculture, and flood control programs, all designed to raise the ground-water table, prevent silting, and increase the summer flow in streams.

These measures are directed against our own anophelines. We must prevent the introduction of new species through expanding air travel. Planes from foreign countries are being disinsecticized but this is not always completely successful. Therefore, airports of entrance are being placed under entomological surveillance, to prevent the establishment of breeding areas of new species.

The Public Health Service seeks an appropriation to extend the activities of Malaria Control in War Areas, to carry out this program. During the progress of this work in the most malarious areas, the foci in the next lower zones of infection will be defined and new appropriations will be requested. It is estimated that between 10 and 15 million dollars a year will be needed for from 5 to 7 years to complete the major operations. Thereafter, a million dollars or less annually will be sufficient to maintain the inspection and educational activities

necessary to prevent the creation of new extensive anopheline breeding areas. With the continued cooperation of State health departments, this program will be successful.

NOTE.—Since the presentation of this paper the Congress has appropriated funds to carry out this program. These funds became available Jan. 1, 1945, and the work has already commenced.

USE OF DDT FOR MOSQUITO CONTROL IN THE UNITED STATES

A Joint Statement of Policy by the United States Army and the United States Public Health Service [1]

Successful use of the new insecticide DDT to combat insect-borne disease among our troops overseas has brought sudden renown and notoriety to this potent war-developed insect killer. Dramatic reports of its large-scale use to control epidemics, and especially the spraying of DDT from aircraft, have fired public imagination and fostered the hasty conclusion that DDT is a complete solution to all of our insect-borne disease problems. However, it must be remembered that DDT distributed over the countryside not only wipes out malaria-carrying mosquitoes but also may kill other insects, many of which are beneficial. Much still must be learned about the effect of DDT on the balance of nature, important to agriculture and wildlife, before general outdoor application of DDT can be safely employed in this country. It may be necessary to ignore these considerations in war areas where the health of our fighting men is at stake, but in the United States such considerations cannot be neglected.

Extensive investigations are now being carried out by authorized agencies to determine the usefulness and possible hazards in the large-scale dissemination of DDT. Until more information has been obtained from such investigations and until it has been evaluated by all interested parties, plans to employ DDT indiscriminately for outdoor area control of insect disease vectors in this country are not to be encouraged.

Since the beginning of mobilization the Army has carried on an extensive antimosquito campaign inside of military reservations and the United States Public Health Service has maintained a cooperative program for the control of malaria in adjacent extramilitary areas. This joint effort has successfully prevented malaria from becoming a problem to troops in this country. To meet the hazard of possible spread of malaria by troops returning from overseas, the Army's

[1] Adopted at a meeting between representatives of these Services held on March 31, 1945.

program in military areas has been intensified and the program of the United States Public Health Service has been extended to include certain additional selected areas in the South where risk of transmission is greatest. Representatives of the Army and the United States Public Health Service have given full consideration to ways in which this mosquito control program might be strengthened by employing DDT. The following joint policy has been agreed upon pending acquisition of further knowledge concerning the large-scale outdoor application of DDT:

1. DDT will be used for residual spray application to houses and other buildings for the purpose of killing adult mosquitoes before they have opportunity to transmit malaria. The long-lasting killing effect of DDT as a residual spray provides a highly effective means to prevent the spread of the malarial parasite. This method of use is safe and economical, and, moreover, is welcomed by the householder because it provides freedom from insect annoyance.

2. The use of DDT as a mosquito larvicide will be limited to experimental investigations and to situations where DDT has definite advantage over other larvicides in saving materials and manpower, and where it presents no hazard to fish and other wildlife.

3. Distribution of DDT from aircraft for large-scale area control of mosquitoes in military and adjacent areas in the United States will be limited to projects conducted with due regard to the possible effects of DDT on beneficial insects and all forms of plant and animal life and in accordance with safeguards established by the Surgeons General of the Army and the United States Public Health Service.

DEATHS DURING WEEK ENDED MARCH 31, 1945

[From the Weekly Mortality Index, issued by the Bureau of the Census, Department of Commerce]

	Week ended Mar. 31, 1945	Corresponding week, 1944
Data for 93 large cities of the United States:		
Total deaths	9,140	9,476
Average for 3 prior years	9,397	
Total deaths, first 13 weeks of year	126,243	132,285
Deaths under 1 year of age	696	617
Average for 3 prior years	594	
Deaths under 1 year of age, first 13 weeks of year	8,368	8,205
Data from industrial insurance companies:		
Policies in force	67,166,267	66,384,840
Number of death claims	13,044	13,927
Death claims per 1,000 policies in force, annual rate	10.1	11.0
Death claims per 1,000 policies, first 13 weeks of year, annual rate	10.9	11.4

PREVALENCE OF DISEASE

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring

UNITED STATES

REPORTS FROM STATES FOR WEEK ENDED APRIL 7, 1945

Summary

A total of 32 cases of poliomyelitis was reported during the current week, as compared with 28 for the preceding week. Of the current total, 7 cases occurred in Alabama and 6 in New York. No other State reported more than 2 cases. To date this year, 485 cases have been reported, more than for the corresponding period in any of the preceding 5 years. Approximately one-fourth of these cases occurred in New York State, and in a few other States the incidence is higher than in recent prior years.

For the fourth consecutive week the seasonal decline in the incidence of meningococcus meningitis continued. A total of 191 cases was reported, as compared with 216 last week and a 5-year (1940–44) median of 112. States reporting the largest numbers are New York (22), Illinois (19), Texas (16), Ohio (13), and Pennsylvania (12). The average for the corresponding weeks of the past two years was 550 cases, while that of the corresponding weeks of the preceding 5-year period (1938–42) was only 65. The total for the year to date is 3,423, as compared with 7,659 and 6,432, respectively, for the first 14 weeks of last year and 1943, a 5-year median of 1,064, and an average of 855 for the corresponding periods of the years 1938 to 1942.

Of 14 cases of smallpox reported during the current week, 4 cases occurred in Indiana and 2 in Kansas. One case each was reported in 8 other States.

Urban mortality continues favorable. A total of 9,121 deaths was reported during the current week in 93 large cities, as compared with 9,140 last week, 9,295 for the corresponding week last year and a 3-year (1942–44) average of 9,257. The cumulative figure for these cities to date is 135,364, as compared with 141,580 for the same period last year.

Telegraphic morbidity reports from State health officers for the week ended April 7, 1945, and comparison with corresponding week of 1944 and 5-year median

In these tables a zero indicates a definite report, while leaders imply that, although none was reported, cases may have occurred.

Division and State	Diphtheria			Influenza			Measles			Meningitis, meningococcus		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944	
NEW ENGLAND												
Maine	0	0	0	1	8	1	4	315	208	1	1	1
New Hampshire	0	0	0	-----	-----	-----	13	26	27	0	2	0
Vermont	0	0	0	-----	3	-----	1	212	57	0	1	0
Massachusetts	8	6	3	-----	-----	-----	154	643	759	4	25	5
Rhode Island	0	0	0	-----	17	-----	5	256	203	2	1	1
Connecticut	2	1	0	2	-----	4	147	400	341	2	9	6
MIDDLE ATLANTIC												
New York	19	11	18	[1] 1	[1] 5	[1] 11	118	2,784	2,756	22	53	15
New Jersey	5	3	4	2	6	11	86	1,411	1,411	9	22	8
Pennsylvania	8	12	12	3	3	-----	263	860	1,068	12	38	15
EAST NORTH CENTRAL												
Ohio	5	0	7	4	11	13	86	1,611	925	13	24	1
Indiana	5	7	6	4	12	16	24	226	226	4	7	5
Illinois	2	1	19	1	18	16	147	932	932	19	30	6
Michigan [2]	6	3	3	1	3	21	73	848	848	6	28	3
Wisconsin	3	3	3	6	49	49	42	2,541	1,627	5	7	1
WEST NORTH CENTRAL												
Minnesota	0	3	2	1	2	2	17	941	160	3	4	0
Iowa	4	2	2	-----	-----	1	36	235	221	3	3	0
Missouri	1	3	3	-----	7	4	16	314	299	3	26	1
North Dakota	1	0	0	5	-----	3	3	77	33	0	1	1
South Dakota	0	0	1	-----	-----	-----	26	19	16	1	2	0
Nebraska	0	3	3	8	1	1	26	146	146	2	1	0
Kansas	4	3	3	4	-----	7	26	566	582	5	5	1
SOUTH ATLANTIC												
Delaware	5	1	0	-----	-----	-----	7	3	8	1	2	0
Maryland [2]	10	6	2	2	9	14	35	982	344	4	10	9
District of Columbia	0	0	0	-----	-----	-----	7	155	134	2	0	0
Virginia	3	9	9	207	246	323	71	1,223	559	2	18	5
West Virginia	2	2	5	16	3	24	63	556	184	4	1	1
North Carolina	5	5	9	-----	10	18	39	2,315	825	2	18	2
South Carolina	7	2	8	318	376	415	34	500	207	5	5	4
Georgia	2	0	3	11	15	73	35	177	177	2	5	1
Florida	0	3	3	-----	2	11	38	196	196	1	6	1
EAST SOUTH CENTRAL												
Kentucky	6	3	4	1	3	4	12	112	146	1	6	3
Tennessee	8	5	5	11	57	61	17	252	252	5	12	2
Alabama	4	6	5	39	107	124	12	493	213	7	9	3
Mississippi [2]	7	2	2	-----	-----	-----	-----	-----	-----	2	7	6
WEST SOUTH CENTRAL												
Arkansas	2	4	4	50	76	81	39	361	169	2	6	3
Louisiana	2	5	5	18	10	11	19	247	170	2	12	1
Oklahoma	2	8	5	151	137	89	60	175	66	2	7	2
Texas	31	17	36	931	731	882	485	2,958	1,150	16	16	7
MOUNTAIN												
Montana	2	0	2	6	11	8	16	116	76	1	1	0
Idaho	1	0	1	-----	2	-----	14	28	35	0	0	0
Wyoming	0	0	0	-----	1	1	10	82	72	0	1	1
Colorado	4	7	9	21	16	35	19	293	293	0	30	1
New Mexico	0	0	1	-----	-----	-----	23	46	50	0	1	0
Arizona	1	0	1	79	83	122	13	386	104	0	0	0
Utah [2]	0	0	0	56	2	13	212	50	239	0	0	0
Nevada	0	0	0	-----	24	-----	1	1	1	0	2	0
PACIFIC												
Washington	3	3	2	2	3	3	269	349	354	5	3	3
Oregon	7	2	1	20	31	16	59	123	404	1	2	2
California	27	33	16	14	48	151	1,057	2,920	1,032	8	29	5
Total	214	184	225	1,996	2,148	3,304	3,979	30,462	25,377	191	499	112
14 weeks	4,234	3,396	4,127	53,151	322,715	152,441	[3]36,200	336,879	235,785	3,423	7,659	1,064

[1] New York City only.
[2] Period ended earlier than Saturday.
[3] Correction: Week ended March 31, Massachusetts, measles 198.

Telegraphic morbidity reports from State health officers for the week ended April 7, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Poliomyelitis			Scarlet fever			Smallpox			Typhoid and paratyphoid fever [4]		
	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44	Week ended—		Median 1940–44
	Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944		Apr. 7, 1945	Apr. 8, 1944	
NEW ENGLAND												
Maine	0	0	0	71	33	11	0	0	0	0	0	0
New Hampshire	0	1	0	8	7	3	0	0	0	0	0	0
Vermont	0	0	0	16	11	13	0	0	0	0	0	0
Massachusetts	1	0	0	383	475	351	0	0	0	1	0	1
Rhode Island	0	0	0	31	21	21	0	0	0	0	0	0
Connecticut	0	0	0	82	107	107	0	0	0	1	0	2
MIDDLE ATLANTIC												
New York	6	1	1	697	667	610	0	0	0	3	7	6
New Jersey	0	0	0	200	266	266	0	0	0	0	4	2
Pennsylvania	2	1	1	514	715	406	0	0	0	3	2	2
EAST NORTH CENTRAL												
Ohio	0	0	0	409	433	363	1	0	0	0	3	3
Indiana	0	1	0	130	257	161	4	0	1	6	1	1
Illinois	2	1	1	312	519	466	0	1	1	1	2	1
Michigan [3]	0	0	0	174	291	291	0	0	0	2	1	2
Wisconsin	0	1	1	245	482	154	0	1	1	0	0	0
WEST NORTH CENTRAL												
Minnesota	0	1	0	96	162	78	0	0	0	0	0	0
Iowa	0	0	0	56	222	42	0	6	2	0	0	1
Missouri	0	0	0	80	138	120	1	0	1	0	1	1
North Dakota	0	0	0	29	25	15	1	0	0	0	0	0
South Dakota	0	0	0	13	39	27	0	0	0	0	0	0
Nebraska	1	0	0	53	111	38	0	0	0	0	0	0
Kansas	0	0	0	93	119	62	2	0	0	0	0	0
SOUTH ATLANTIC												
Delaware	0	0	0	6	18	8	0	0	0	1	0	0
Maryland [3]	0	0	0	243	232	82	0	0	0	1	0	1
District of Columbia	0	0	0	30	149	17	0	0	0	0	0	0
Virginia	1	0	1	117	164	58	0	0	0	2	3	2
West Virginia	0	0	0	44	116	53	0	1	0	2	3	1
North Carolina	0	0	0	82	41	31	0	0	0	2	1	1
South Carolina	1	1	0	6	4	4	0	0	0	1	0	0
Georgia	2	0	0	41	7	10	1	0	0	8	3	3
Florida	1	0	1	3	9	9	0	0	0	8	1	3
EAST SOUTH CENTRAL												
Kentucky	1	0	0	48	88	89	0	0	0	1	4	4
Tennessee	0	0	0	29	51	68	0	1	1	1	3	2
Alabama	7	0	0	17	8	18	0	0	0	0	0	0
Mississippi [3]	1	1	1	15	6	6	1	1	0	1	1	1
WEST SOUTH CENTRAL												
Arkansas	0	0	0	9	7	6	0	0	1	3	0	0
Louisiana	1	1	0	24	9	8	0	0	0	1	2	2
Oklahoma	1	0	0	14	34	21	0	0	0	1	0	1
Texas	0	3	3	114	134	63	0	0	3	6	6	5
MOUNTAIN												
Montana	0	0	0	21	44	22	0	0	0	0	0	1
Idaho	0	0	0	38	43	19	1	0	0	2	0	0
Wyoming	0	0	0	15	24	24	1	0	0	0	0	0
Colorado	0	0	0	9	61	46	0	1	0	0	0	2
New Mexico	0	0	0	19	7	6	0	0	0	1	1	1
Arizona	0	0	0	25	14	7	0	0	0	0	3	0
Utah [3]	1	0	0	35	113	22	0	0	0	0	0	0
Nevada	0	0	0	1	7	0	0	0	0	0	0	0
PACIFIC												
Washington	1	0	0	128	379	57	1	0	0	0	0	1
Oregon	0	1	0	30	139	20	0	0	0	3	2	0
California	2	2	2	325	290	124	0	0	0	0	4	3
Total	32	16	19	5,180	7,298	4,468	14	12	21	62	58	72
14 weeks	485	311	353	79,171	84,112	55,893	150	174	371	781	1,011	1,043

[3] Period ended earlier than Saturday.

[4] Including paratyphoid fever reported separately, as follows: New York 1, Illinois 1, South Carolina 1, Georgia 7, Florida 4, Texas 1, Oregon 3.

Telegraphic morbidity reports from State health officers for the week ended Apr. 7, 1945, and comparison with corresponding week of 1944 and 5-year median—Con.

Division and State	Whooping cough			Week ended Apr. 7, 1945							
	Week ended—		Median 1940–44	Dysentery			Encephalitis, infectious	Rocky Mt. spotted fever	Tularemia	Typhus fever	Undulant fever
	Apr. 7, 1945	Apr. 8, 1944		Amebic	Bacillary	Unspecified					
NEW ENGLAND											
Maine	49	0	13	0	0	0	0	0	0	0	0
New Hampshire	0	5	5	0	0	0	0	0	0	0	0
Vermont	24	19	31	0	0	0	0	0	0	0	1
Massachusetts	148	50	149	0	0	0	1	0	0	0	1
Rhode Island	11	3	26	0	0	0	0	0	0	0	0
Connecticut	30	29	47	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC											
New York	234	137	373	7	3	0	1	0	0	0	3
New Jersey	96	47	116	0	0	0	0	0	0	0	2
Pennsylvania	169	92	270	1	0	0	0	0	0	0	2
EAST NORTH CENTRAL											
Ohio	201	46	155	0	0	0	1	0	1	0	6
Indiana	8	10	21	0	0	0	0	0	0	0	0
Illinois	55	31	139	2	2	0	1	0	1	0	5
Michigan [2]	54	69	176	0	0	0	0	0	0	0	6
Wisconsin	65	38	131	1	0	0	0	0	1	0	4
WEST NORTH CENTRAL											
Minnesota	5	9	45	4	1	0	0	0	0	0	4
Iowa	2	4	11	0	0	0	0	0	0	0	0
Missouri	12	18	33	0	0	0	1	0	0	0	0
North Dakota	0	9	13	0	0	0	1	0	0	0	0
South Dakota	5	5	5	0	0	0	0	0	0	0	1
Nebraska	1	7	7	0	0	0	0	0	0	0	0
Kansas	10	36	36	0	0	0	0	0	0	0	0
SOUTH ATLANTIC											
Delaware	0	3	3	0	0	0	0	0	0	0	0
Maryland [2]	58	44	93	0	0	4	0	0	0	0	0
District of Columbia	11	5	14	0	0	0	0	0	0	0	0
Virginia	28	79	76	1	0	32	0	0	0	1	2
West Virginia	54	24	42	0	0	0	0	0	0	0	1
North Carolina	151	178	178	0	0	0	0	0	0	4	0
South Carolina	72	69	55	1	10	0	0	0	0	0	0
Georgia	19	16	28	1	4	0	0	0	2	6	7
Florida	5	18	18	2	0	0	0	0	0	5	1
EAST SOUTH CENTRAL											
Kentucky	16	83	74	0	0	0	0	0	1	0	0
Tennessee	15	36	43	0	0	0	0	0	0	1	0
Alabama	36	119	23	2	0	0	0	0	0	3	0
Mississippi [2]	----	----	----	0	0	0	0	0	4	2	1
WEST SOUTH CENTRAL											
Arkansas	20	9	9	1	0	0	0	0	0	1	1
Louisiana	3	2	5	1	0	0	0	0	0	2	3
Oklahoma	9	10	10	0	0	0	0	0	0	0	0
Texas	253	172	284	9	240	49	0	0	0	20	6
MOUNTAIN											
Montana	25	3	11	0	0	0	0	0	0	0	1
Idaho	2	0	0	0	0	0	0	0	0	0	1
Wyoming	4	0	2	0	0	0	0	0	0	0	0
Colorado	24	----	19	0	0	0	0	0	0	0	1
New Mexico	10	4	26	0	0	0	0	0	0	0	0
Arizona	24	29	35	0	0	11	0	0	0	0	0
Utah [2]	25	39	46	0	0	0	0	0	0	0	3
Nevada	0	0	0	0	0	0	0	0	0	0	0
PACIFIC											
Washington	18	46	64	1	2	0	0	0	0	0	2
Oregon	16	20	20	0	0	0	0	0	0	0	16
California	358	75	372	0	8	0	0	0	0	0	4
Total	2,435	1,747	3,521	34	270	96	6	0	10	45	85
Same week 1944	1,747	----	----	15	221	40	6	0	5	24	40
Average, 1942–44	3,199	----	----	18	151	45	10	[5] 2	10	[5] 27	39
14 weeks, 1945	[6] 34,076	----	----	[6] 404	[6] 6,473	[6] 1,715	[6] 99	4	256	702	1,184
1944	25,620	----	----	372	2,810	896	139	4	139	528	572
Average, 1942–44	45,200	----	[5] 54,101	330	2,183	669	133	[5] 10	218	[5] 528	456

[2] Period ended earlier than Saturday.

[5] 5-year median, 1940–44.

[6] Corrections: Week ended Mar. 10, Illinois, amebic dysentery, 4; bacillary dysentery, 0; week ended March 24, Arkansas, unspecified dysentery, 0, encephalitis, infectious, 2; week ended March 31, Louisiana, amebic dysentery, 10, Idaho, whooping cough, 3.

WEEKLY REPORTS FROM CITIES

City reports for week ended March 31, 1945

This table lists the reports from 89 cities of more than 10,000 population distributed throughout the United States, and represents a cross section of the current urban incidence of the diseases included in the table.

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
NEW ENGLAND												
Maine:												
Portland	0	0	------	0	0	1	1	0	1	0	0	8
New Hampshire:												
Concord	0	0	------	0	0	0	6	1	5	0	0	
Vermont:												
Barre	0	0	------	0	0	0	1	0	1	0	0	0
Massachusetts:												
Boston	3	0	------	1	123	3	16	0	84	0	0	43
Fall River	0	0	------	0	2	0	1	0	3	0	0	2
Springfield	0	0	------	0	3	0	0	0	33	0	0	1
Worcester	0	0	------	0	0	0	2	0	26	0	0	8
Rhode Island:												
Providence	0	0	------	0	3	1	9	0	9	0	0	13
Connecticut:												
Bridgeport	0	0	------	0	0	0	0	0	5	0	0	0
Hartford	0	0	------	0	37	1	0	0	12	0	0	0
New Haven	0	0	------	0	0	0	0	0	0	0	0	3
MIDDLE ATLANTIC												
New York:												
Buffalo	0	0	------	0	0	2	9	------	15	0	0	5
New York	15	1	3	1	35	11	57	1	390	0	2	56
Rochester	0	0	------	0	20	1	5	0	14	0	0	11
Syracuse	0	0	------	0	0	0	4	0	1	0	0	29
New Jersey:												
Camden	2	0	------	0	0	0	5	0	4	0	0	0
Newark	0	0	1	0	4	1	3	0	26	0	0	7
Trenton	1	0	------	0	0	0	1	1	8	0	0	0
Pennsylvania:												
Philadelphia	1	0	------	0	106	6	23	0	98	0	0	37
Pittsburgh	0	0	1	1	0	3	8	0	12	0	1	3
Reading	0	0	------	0	4	0	0	0	10	0	0	0
EAST NORTH CENTRAL												
Ohio:												
Cincinnati	0	0	------	0	4	0	8	0	18	0	0	11
Cleveland	0	0	3	2	9	3	9	0	59	0	0	53
Columbus	0	0	------	0	0	0	3	0	8	0	0	11
Indiana:												
Fort Wayne	1	0	------	0	0	0	3	0	17	0	0	0
Indianapolis	5	0	------	2	5	1	8	0	25	0	0	0
South Bend	0	0	------	0	0	1	0	0	6	0	0	0
Terre Haute	0	0	------	1	3	0	0	0	7	0	0	0
Illinois:												
Chicago	0	0	3	4	58	12	38	0	145	0	0	23
Springfield	0	0	------	0	0	0	1	0	5	0	0	3
Michigan:												
Detroit	5	3	------	0	38	2	9	0	86	0	0	15
Flint	0	0	------	0	2	0	7	0	19	0	0	0
Grand Rapids	0	0	------	0	1	0	0	0	10	0	0	0
Wisconsin:												
Kenosha	0	0	------	0	0	1	0	0	2	0	0	0
Milwaukee	0	0	1	1	5	0	0	0	65	0	0	1
Racine	0	0	------	0	0	0	2	0	6	0	0	1
Superior	0	0	------	0	1	0	0	0	3	0	0	2
WEST NORTH CENTRAL												
Minnesota:												
Duluth	0	0	------	0	0	0	0	0	9	0	0	1
Minneapolis	0	0	------	1	3	2	4	0	20	0	0	3
St. Paul	1	0	------	0	0	0	3	0	14	0	0	7
Missouri:												
Kansas City	0	0	------	4	7	1	7	0	17	0	0	0
St. Joseph	0	0	------	0	4	0	0	0	11	0	0	0
St. Louis	5	0	1	0	5	4	10	0	37	0	0	6

City reports for week ended March 31, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
WEST NORTH CENTRAL—continued												
Nebraska:												
Omaha	1	0	------	0	7	0	2	0	18	0	0	0
Kansas:												
Topeka	0	0	------	0	2	0	1	0	7	0	0	2
Wichita	0	0	------	0	2	0	2	0	4	0	0	4
SOUTH ATLANTIC												
Delaware:												
Wilmington	0	0	------	0	0	1	2	0	0	0	0	0
Maryland:												
Baltimore	11	0	1	1	7	3	12	0	83	0	0	44
Cumberland	0	0	------	0	0	0	2	0	33	0	0	1
Frederick	0	0	------	0	0	0	0	0	0	0	0	0
District of Columbia:												
Washington	1	0	------	0	6	0	10	0	50	0	0	7
Virginia:												
Lynchburg	1	0	------	0	0	0	1	0	5	0	0	1
Richmond	0	0	------	0	2	0	0	1	19	0	0	0
Roanoke	0	0	------	0	4	0	0	0	3	0	0	0
West Virginia:												
Charleston	0	0	------	0	0	0	0	0	1	0	0	0
Wheeling	0	0	------	0	44	1	0	0	1	0	0	1
North Carolina:												
Raleigh	0	0	------	0	5	0	0	0	3	0	0	19
Wilmington	1	0	------	0	4	0	0	0	0	0	0	9
Winston-Salem	0	0	------	0	0	0	3	0	18	0	0	0
South Carolina:												
Charleston	0	0	3	0	23	0	2	0	3	0	0	0
Georgia:												
Atlanta	0	0	5	0	0	0	4	0	14	0	0	0
Brunswick	0	0	------	0	6	0	0	0	1	0	0	11
Savannah	0	0	1	1	0	0	0	0	2	0	0	0
Florida:												
Tampa	0	0	------	0	1	0	1	0	0	0	0	1
EAST SOUTH CENTRAL												
Tennessee:												
Memphis	0	0	3	2	59	1	4	0	11	0	0	8
Nashville	0	0	------	0	1	0	2	0	3	0	0	0
Alabama:												
Birmingham	0	0	------	0	2	2	6	1	6	0	0	2
Mobile	0	0	1	0	0	1	2	0	1	0	0	0
WEST SOUTH CENTRAL												
Arkansas:												
Little Rock	0	0	------	0	14	0	0	0	0	0	0	0
Louisiana:												
New Orleans	4	0	2	0	15	2	5	0	10	0	0	5
Shreveport	0	0	------	0	0	1	5	0	0	0	0	0
Texas:												
Dallas	2	0	------	0	23	0	5	0	7	0	0	5
Galveston	0	0	------	0	0	0	2	0	0	0	0	0
Houston	1	0	------	0	1	0	5	0	7	0	0	0
San Antonio	5	0	------	0	1	2	7	0	3	0	0	0
MOUNTAIN												
Montana:												
Billings	0	0	------	0	0	0	1	0	1	0	0	0
Great Falls	0	0	------	0	0	1	0	0	1	0	0	0
Helena	0	0	------	0	0	0	1	0	1	0	0	0
Missoula	0	0	------	0	2	0	0	0	1	0	0	0
Idaho:												
Boise	0	0	------	0	0	0	2	0	2	0	0	0
Colorado:												
Denver	1	0	1	0	4	1	14	0	15	0	0	15
Pueblo	0	0	------	0	2	0	1	0	4	0	0	1
Utah:												
Salt Lake City	0	0	------	0	49	0	1	0	10	0	0	8

City reports for week ended March 31, 1945—Continued

	Diphtheria cases	Encephalitis, infectious, cases	Influenza		Measles cases	Meningitis, meningococcus, cases	Pneumonia deaths	Poliomyelitis cases	Scarlet fever cases	Smallpox cases	Typhoid and paratyphoid fever cases	Whooping cough cases
			Cases	Deaths								
PACIFIC												
Washington:												
Seattle	2	0	-----	0	36	0	4	0	41	0	0	4
Spokane	3	0	2	1	1	0	1	0	1	0	0	0
Tacoma	0	0	-----	0	16	0	0	0	12	0	0	0
California:												
Los Angeles	3	0	2	1	72	6	4	0	42	0	0	18
Sacramento	0	0	-----	0	3	1	0	0	10	0	0	1
San Francisco	2	0	-----	0	118	3	10	0	46	0	0	5
Total	77	4	34	24	1,014	83	387	5	1,846	0	3	535
Corresponding week, 1944	60	-----	100	33	8,554	-----	480	-----	2,781	0	10	314
Average, 1940–44	66	-----	194	[1] 41	[2] 7,059	-----	[1] 490	-----	1,830	1	15	927

[1] 3-year average, 1942–44.
[2] 5-year median, 1940–44.

Dysentery, amebic.—Cases: New York, 2; Chicago, 2; Charleston, S. C., 1; Los Angeles, 2.
Dysentery, bacillary.—Cases: Providence, 1; New York, 5; Detroit, 1; Charleston, S. C., 6; Los Angeles, 1.
Dysentery, unspecified.—Cases: Cincinnati, 1; Baltimore, 1; San Antonio, 9.
Tularemia.—Cases: Baltimore, 1; Birmingham, 1.
Typhus fever, endemic.—Cases: Philadelphia, 1; Winston-Salem, 1; Atlanta, 1; Savannah, 1; Tampa, 1; San Antonio, 1; Spokane, 1 (Army hospital); Los Angeles, 1.

Rates (annual basis) per 100,000 population, by geographic groups, for the 89 cities in the preceding table (estimated population, 1943, 34,366,400)

	Diphtheria case rates	Encephalitis, infectious, case rates	Influenza		Measles case rates	Meningitis, meningococcus, case rates	Pneumonia death rates	Poliomyelitis case rates	Scarlet fever case rates	Smallpox case rates	Typhoid and paratyphoid fever case rates	Whooping cough case rates
			Case rates	Death rates								
New England	7.8	0.0	0.0	2.6	439	15.7	94.1	2.6	468	0.0	0.0	204
Middle Atlantic	8.8	0.5	2.3	0.9	78	11.1	53.2	0.9	268	0.0	1.4	69
East North Central	6.7	1.8	4.3	6.1	77	12.2	53.5	0.0	292	0.0	0.0	73
West North Central	14.1	0.0	2.0	10.1	60	14.1	58.3	0.0	276	0.0	0.0	46
South Atlantic	22.9	0.0	16.3	3.3	167	8.2	60.5	1.6	386	0.0	0.0	154
East South Central	0.0	0.0	23.6	11.8	366	23.6	82.6	5.9	124	0.0	0.0	59
West South Central	34.4	0.0	5.7	0.0	155	14.3	83.2	0.0	77	0.0	0.0	29
Mountain	7.9	0.0	7.9	0.0	453	15.9	158.9	0.0	278	0.0	0.0	191
Pacific	15.8	0.0	6.3	3.2	389	15.8	30.0	0.0	240	0.0	0.0	44
Total	11.7	0.6	5.2	3.7	154	12.6	58.9	0.8	281	0.0	0.5	81

TERRITORIES AND POSSESSIONS

Puerto Rico

Notifiable diseases—4 weeks ended March 24, 1945.—During the 4 weeks ended March 24, 1945, cases of certain notifiable diseases were reported in Puerto Rico as follows:

Disease	Cases	Disease	Cases
Bilharziasis	6	Measles	347
Chickenpox	42	Puerperal fever	1
Diphtheria	52	Syphilis	627
Dysentery (unspecified)	2	Tetanus	5
Filariasis	4	Trachoma	2
Gonorrhea	568	Tuberculosis (all forms)	643
Influenza	84	Typhoid fever	75
Leprosy	1	Typhus fever (murine)	8
Lymphogranuloma inguinale	1	Undulant fever	1
Malaria	434	Whooping cough	119

FOREIGN REPORTS

CANADA

Provinces—Communicable diseases—Week ended March 17, 1945.—During the week ended March 17, 1945, cases of certain communicable diseases were reported by the Dominion Bureau of Statistics of Canada as follows:

Disease	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Chickenpox		34		147	362	54	14	58	94	763
Diphtheria		4	2	49	2	6	4	5		72
Dysentery:										
Bacillary				13					1	14
Unspecified					2					2
Encephalitis, infectious						1		1		2
German measles		2		32	16	1	4	2	12	69
Influenza		48			188				18	254
Measles		3		140	79	11	32	21	288	574
Meningitis, meningococcus			1	1	1	1		3	1	8
Mumps		5	1	383	181	43	34	145	24	816
Scarlet fever			4	67	105	22	14	57	42	311
Tuberculosis (all forms)		2	1	164	59	11	29	39	14	319
Typhoid and paratyphoid fever				5	5	1				11
Undulant fever				2	3				1	6
Venereal diseases:										
Gonorrhea		29	11	130	186	41	16	14	85	512
Syphilis	3	17	4	140	106	12	5	11	36	334
Whooping cough		8		213	50	7	6	30	29	343

SWEDEN

Notifiable diseases—January 1945.—For the month of January 1945, cases of certain notifiable diseases were reported in Sweden as follows:

Disease	Cases	Disease	Cases
Cerebrospinal meningitis	7	Poliomyelitis	85
Diphtheria	336	Scarlet fever	2,193
Dysentery, epidemic	123	Syphilis	141
Encephalitis, epidemic	1	Typhoid fever	8
Gonorrhea	1,423	Undulant fever	3
Hepatitis	770	Weil's disease	5
Paratyphoid fever	7		

WORLD DISTRIBUTION OF CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER

From medical officers of the Public Health Service, American consuls, International Office of Public Health, Pan American Sanitary Bureau, health section of the League of Nations, and other sources. The reports contained in the following tables must not be considered as complete or final as regards either the list of countries included or the figures for the particular countries for which reports are given.

CHOLERA

[C indicates cases]

NOTE.—Since many of the figures in the following tables are from weekly reports, the accumulated totals are for approximate dates.

Place		January–December 1944	January–February 1945	March 1945—week ended— 3	10	17	24	31
ASIA								
Ceylon	C	2						
India	C	216,580	11,680					
Calcutta	C	3,606	185	50	113			
Chittagong	C	64	2					
Madras	C	41	33	7	2			
Negapatam	C	17						
Vizagapatam	C	269						

PLAGUE

[C indicates cases; D, deaths; P, present]

Place								
AFRICA								
Algeria	C	67	[1] 12					
Bechuanaland	C	[2] 399	7					
Belgian Congo	C	36	3					
Plague-infected rats		P						
British East Africa:								
Kenya	C	17	2					
Uganda	C	8	2					
Egypt	C	644	5		1			
Port Said	C	76	3		1			
Suez	C	163	2					
French West Africa: **Dakar**	C	562	4					
Madagascar	C	184	36		2			
Morocco (French)	C	227	47				[3] 29	
Rhodesia, northern	C	1						
Senegal	C	87	54					
Sudan (French)	D	1						
Tunisia	C	65	2					
Union of South Africa	C	80	4					
ASIA								
China:								
Chekiang Province	C	P						
Foochow	C	P						
Kiangsi Province	C	104						
India	C	14,606	6,991					
Indochina	C	57						
Iraq: Amara Province	C		29					
Palestine	C	86	5	1				
Plague-infected rats		201	P					
EUROPE								
Portugal: Azores	C	29	1			2		
SOUTH AMERICA								
Bolivia:								
Chuquisaca Department	C	5						
Santa Cruz Department	C	5						
Tarija Department	C	12						
Brazil	C	[4] 111						
Ecuador:								
Chimborazo Province	C	4	2					
Loja Province	C	12						
Peru:								
Ancash Department	C	63						
Lambayeque Department	C	1						
Libertad Department	C	12						
Lima Department	C	29						
Piura Department	C	2						
OCEANIA								
Hawaii Territory:								
Hamakua District	D	[5] 5						
Plague-infected rats [6]		[7] 59	3	1				

[1] Includes 1 case of pneumonic plague.
[2] From the beginning of the outbreak in October 1944.
[3] For the period Mar. 1–20, 1945.
[4] For the period Jan. 1 to Aug. 31, 1944.
[5] Includes 1 death from pneumonic plague.
[6] Plague infection was also proved in a pool of 53 fleas on Mar. 7, 1944, in another pool of 75 fleas on Dec. 7, 1944, in a pool of rats on Dec. 17, 1944, in tissue from a pool of 8 mice on Aug. 20, 1944, in a pool of 5 mice on Jan. 4, 1945, and in a pool of fleas on Feb. 14, 1945.
[7] Includes 12 plague-infected mice.

SMALLPOX

[C indicates cases]

Place		January-December 1944	January-February 1945	March 1945—week ended— 3	10	17	24	31
AFRICA								
Algeria	C	1,060	60					
Angola	C	172						
Basutoland	C	228	24					
Belgian Congo	C	4,355	1,196	102				
British East Africa:								
Kenya	C	3,270	69	6				
Mombasa	C	150						
Tanganyika	C	2,637	75	128				
Uganda	C	4,505	183	40	45			
Cameroon (French)	C	999	46		10			
Dahomey	C	89	35		2			
Egypt	C	11,059	259					
French Equatorial Africa	C	2,344	1,108					
French Guinea	C	1,246	390		88			
French West Africa	C	224	149		30			
Gambia	C	15	5	2	1			
Gold Coast	C	107	1					
Ivory Coast	C	489	20		13			
Mauritania	C	2	2					
Morocco (French)	C	788	41		6		7	
Mozambique	C	5						
Nigeria	C	5,105	1,055					
Niger Territory	C	628	86		57			
Rhodesia, northern	C	352	78	190				
Senegal	C	193	120		16			
Sierra Leone	C	419						
Sudan (Anglo-Egyptian)	C	2						
Sudan (French)	C	2,050	409		13			
Togo (British)	C	90				20	5	
Togo (French)	C	161	174		69			
Tunisia	C	11						
Union of South Africa	C	2,510	12					
ASIA								
Arabia	C	[1] 32	4					
Ceylon	C	91	[2] 232	12				
China: Kunming (Yunnan Fu)	C	54	2					
India	C	262,037	46,314					
Indochina	C	1,557						
Iran	C	792	28					
Iraq	C	54						
Palestine	C	165						
Syria and Lebanon	C	182	5					
Trans-Jordan	C	2						
EUROPE								
Belgium	C		1					
France	C	3	2					
Gibraltar	C	24						
Great Britain	C	[3] 18						
Greece	C	321						
Italy	C	1,566	192	31				
Portugal	C	59	1		1			
Spain	C	194	17					
Turkey	C	6,083	129	3	7	10	6	104
NORTH AMERICA								
Canada	C		6					
Dominican Republic	C	1						
Guatemala	C	37						
Honduras	C	9						
Mexico	C	2,856	158					
Nicaragua	C		123					
Panama (Republic)	C	2						
SOUTH AMERICA								
Bolivia	C	1,159						
Brazil	C	8,085	39	2				
Chile	C	30						
Colombia	C	1,531	16	7	8	12		
Ecuador	C	29	7					
Paraguay	C		1					
Peru	C	541						
Lima	C	31						
Venezuela [4]	C	584	153	71	33	80		

[1] Includes imported cases.
[2] Includes some cases of chickenpox.
[3] Includes 1 case imported from the Middle East.
[4] Venezuela reports smallpox as alastrim.

TYPHUS FEVER*

[C indicates cases; P, present]

Place		January-December 1944	January-February 1945	March 1945—week ended—				
				3	10	17	24	31
AFRICA								
Algeria	C	1,770	388					
Basutoland	C	171						
Belgian Congo	C	101	11	2				
British East Africa: Kenya	C	16	10					
Mombasa	C	[1] 8						
Egypt	C	18,533	2,375					
French Equatorial Africa	C	2						
French Guinea	C	2						
French West Africa: **Dakar** [2]	C	60						
Gold Coast	C	7						
Libya: Tripolitania	C	5						
Morocco (French)	C	2,928	979				[3] 799	
Morocco (Spanish)	C	11						
Mozambique	C	4						
Nigeria	C	2						
Rhodesia, northern	C	151	6		4			
Sierra Leone	C	42						
Sudan (Anglo-Egyptian)	C	3						
Tunisia	C	1,607	57					
Union of South Africa	C	6,326	P					
ASIA								
Arabia: Western Aden Protectorate	C	[4] 16						
Ceylon	C	1						
China: Kunming (Yunnan Fu)	C	141	6					
India	C	31	9	1				
Indochina	C	1,004						
Iran	C	6,436						
Iraq	C	627						
Palestine	C	504	14					
Syria and Lebanon	C	428		2				
Trans-Jordan	C	49	5					
EUROPE								
Belgium	C	10						
Bulgaria	C	702	222					
France	C	11	3					
Germany	C	2,467						
Gibraltar	C	6	3					
Greece	C	388	12					
Hungary	C	3,336						
Irish Free State	C	9						
Italy	C	10	5					
Malta and Gozo [2]	C	18						
Netherlands	C	8						
Norway	C	1						
Portugal	C	33	22	1	3			
Rumania	C	[5] 6,000						
Slovakia	C	347						
Spain	C	498	2					
Turkey	C	3,121	795	124	85	90	64	81
Yugoslavia	C	8,243	137					
NORTH AMERICA								
Canada [2]	C					1		
Costa Rica [2]	C	2						
Cuba [2]	C	2	1					
Dominican Republic	C	10						
Guatemala	C	2,144	183					
Jamaica	C	60	3					
Mexico	C	1,951	39					
Panama Canal Zone	C	1						
Puerto Rico [2]	C	187	5	5	2		1	
Salvador	C	7						
Virgin Islands [2]	C	20						

See footnotes at end of table.

TYPHUS FEVER*—Continued

[C indicates cases; P, present]

Place		January–December 1944	January–February 1945	March 1945—week ended— 3	10	17	24	31
SOUTH AMERICA								
Bolivia	C	369						
Brazil	C	4	1					
Chile	C	550	9					
Columbia [2]	C	628						
Curacao	C	6				1		
Ecuador	C	580	72					
Peru	C	1,328						
Venezuela	C	105	14					
OCEANIA								
Australia [2]	C	189	33	4				
Hawaii Territory [2]	C	163	14		3	3		

*Reports from some areas are probably murine type, while others probably include both murine and louse-borne types.

[1] Reported as tick typhus, probably boutonneuse fever.
[2] Reports cases as murine type.
[3] For the period Mar. 1–20, 1945.
[4] A report dated Mar. 30, 1944, states that an estimated 800 deaths from typhus fever have been reported in Western Aden Protectorate, Arabia.
[5] For the period Jan. 1 to May 7, 1944.

YELLOW FEVER

[C indicates cases; D, deaths]

Place		January–December 1944	January–February 1945	March 1945—week ended— 3	10	17	24	31
AFRICA								
Belgian Congo:								
Babeyru	D	2						
Banzyville	C	[1] 13						
Bondo	D	1						
Leopoldville	C	1						
Gold Coast:								
Avenopeme Keta	C						[2] 1	
Cape Coast	C	[2] 1						
Ho	C	[2] 1						
Kintampo	C	1						
Northern Territories	C	1						
Nsawam	C	1						
Sekondi	C	[2] 1						
Tamale	C	[2] 1						
Yendi	C	[2] 1						
Ivory Coast:								
Abidjan	C	1						
Divo	C	1						
Guiglo	C					1		
Nigeria: Bukuru	C	1						
Portuguese Guinea: Port Bintam	C	1						
EUROPE								
Portugal: Lisbon.[3]								
SOUTH AMERICA								
Bolivia:								
La Paz Department	C	1						
Santa Cruz Department	C	3						
Brazil:								
Acre Territory	D	1						
Goiaz State	D	9	57					
Matto Grosso State	D	3						
Para State	D	2						

See footnotes at end of table.

YELLOW FEVER—Continued

[C indicates cases; D, deaths]

Place		January–December 1944	January–February 1945	March 1945—week ended—				
				3	10	17	24	31
Colombia:								
Amazonas Department	D	1						
Boyaca Department	D	4						
Caldas Department	D	1						
Cundinamarca Department	D	1						
Intendencia of Meta	C	1						
Santander Department	D	4						
Santander del Norte Department	D	2	2					
Peru: Cuzco Department	C						1	
Venezuela:								
Barinas State	C	2						
Bolivar State	D	1						
Tachira State	C	[4] 30	2					

[1] Includes 11 cases of suspected yellow fever.
[2] Suspected.
[3] According to information dated Jan. 21, 1944, it is reported that a vessel which called at the islands of Sao Tome and Cape Verde arrived at Lisbon, Portugal, with cases of yellow fever on board.
[4] Includes 21 cases of suspected yellow fever.

FEDERAL SECURITY AGENCY

UNITED STATES PUBLIC HEALTH SERVICE

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DIVISION OF PUBLIC HEALTH METHODS

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